REMARKS

The Applicants hereby request the entry of amendments to Claims 21, 24, 29, 31, and 32. Claim 21 is being amended by changing the word "comprising" to "consisting essentially of" when referring to the active ingredient casing. Claim 29 is being amended to explicitly exclude surfactants from being mixed with the veterinary active ingredient. The goal of the amendment to Claim 29 is to exclude surfactants from coating the carrier material. Claims 24, 31, and 32 are being amended to change the word "or" to "and" in the Markush grouping.

No new matter is being entered by these amendments.

35 U.S.C. § 102(b)

The Examiner rejected Claims 21, 23-25, 27-29, 31-33, and 35-36 as being anticipated by Patel et al. (WO 01/37808) under 35 U.S.C. § 102(b). The Examiner believes that Patel et al. teaches every aspect of the claimed invention and cites various pages within Patel et al. that discusses each and every aspect of the claimed invention.

It is well accepted law that for an application to be rejected under 35 U.S.C. § 102(b), every element and limitation of the claim invention must be found in a single prior art reference (*Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383, 58 U.S.P.Q.2d 1286, 1291 (Fed. Cir. 2001); *Scripps Clinic & Research Foundation v. Genetech, Inc.*, 927 F.2d 1565, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991)). The Applicants submit that Patel et al. fails to clearly teach each element and limitation of the claimed invention. Applicants reached this opinion only upon an extremely careful analysis of Patel et al. This extremely careful analysis is necessary because Patel et al. contains many of the same words as the rejected claims but Patel et al., in reality, fails to describe and teach the same invention as claimed in the present application and thus does not act as novelty destroying prior art.

Applicants' comments distinguishing Patel et al. from Applicants' invention will concentrate on two differences of the layer containing the active pharmaceutical ingredient(s). However, Applicants note that other differences between Patel et al. and the present invention exist.

In Patel et al. the layer containing the active pharmaceutical ingredient also contains one or more surfactants which help the active pharmaceutical ingredient dissolve in the small intestine and/or blood stream. In contrast, in the presently claimed invention, the layer containing the active pharmaceutical ingredient lacks surfactants. Amended Claim 21 limits the

layer containing the active pharmaceutical ingredient to one or more active pharmaceutical ingredients and non-essential components, thereby excluding surfactants. Amended Claim 29 specifically excludes the addition of surfactants to the active pharmaceutical ingredient(s) prior to coating the carrier.

The examples in Patel et al. clearly set forth the concept that the active pharmaceutical ingredient and surfactants are mixed together into a layer that surrounds the carrier bead and then is dissolved within the carrier bead (see discussion below). In Example 1 on page 78, Patel et al. describes dissolving the active pharmaceutical ingredient in surfactants by using a mixture of solvents (methylene chloride and isopropyl alcohol). This solution of active pharmaceutical ingredient and surfactants (the coating solution) is sprayed onto sugar beads. The coated sugar beads are dried under vacuum to minimize the amount of solvents left on the coated sugar beads. Examples 2 through 5 (pages 78-80 of Patel et al.) are summarized in the below table.

Example	Active ingredient	surfactants
2	glyburide	a mixture of a hydrophilic surfactant (PEG-40 stearate) and a lipophilic surfactant (glycerol monolaurate)
3	progesterone	a mixture of a hydrophilic surfactant (Solulan C-24) and two lipophilic components (deoxycholic acid and distilled monoglycerides)
4	itraconazole	a mixture of non-ionic hydrophilic surfactants (Cremophor RH-40 andPEG-150 monostearate), an ionic hydrophilic surfactant (sodium taurocholate) and a lipophilic surfactant (glycerol monolaurate)
5	omeprazole	a mixture of a two hydrophilic surfactants (PEG-150 monostearate and PEG-40 monostearate), and a triglyceride-containing lipophilic component (Maisine35-1).

In Examples 2-5, the active pharmaceutical ingredient is dissolved in the surfactants using the solvents methylene chloride and isopropyl alcohol. The solvents are removed by drying. Thus, the sugar beads are coated with a mixture of the active pharmaceutical ingredient and the surfactants.

In the Background Art section of the Specification (pages 1 and 2), Patel et al. discusses prior art attempts to increase the bioavailability of active pharmaceutical ingredients by protecting the active pharmaceutical ingredients from the acidic environment of the stomach and by increasing the dissolution of the active pharmaceutical ingredient in the small intestine.

According to Patel et al., these prior art attempts have not been successful. Furthermore, Patel et al. states "[i]t is an object of this invention to provide solid pharmaceutical compositions having active ingredients in a rapid dissolvable and more solubilized state therein." (see bottom of page 2). Thus, Patel et al. teaches the combination of the active pharmaceutical ingredient and surfactants solubilized within the carrier.

In contrast to Patel et al., the compositions and methods claimed in Claims 21, 23-25, and 27-29, 31-33, and 35-36 lack a combination of surfactants and active pharmaceutical ingredients. The active pharmaceutical ingredient, without surfactants, coats the carrier material. This difference, by itself, is enough to make the present invention unique over Patel et al.

Another difference involving the surfactants and the active ingredients exists. Patel et al. states on page 14, lines 15-16 that the hydrophilic surfactants "... increase solubility of the active ingredient in the solid carrier..." as well as increase solubility and/or dissolution of the active pharmaceutical ingredient in the small intestine and/or blood stream, thereby increasing the bioavailability of the active pharmaceutical ingredient. Patel et al. also states on page 14, lines 25-26 that "... lipophilic surfactants can provide any of the advantageous characteristics listed above for hydrophilic surfactants...", thus, lipophilic surfactants also the solubility of the active pharmaceutical ingredient in the solid carrier.

In contrast, Applicants teach that the active pharmaceutical ingredient "encases" the carrier (see, e.g., page 17, line 20; page 18, lines 4 and 18; page 20, line 1). With no surfactants, the active pharmaceutical ingredient is not solubilized or dissolved within the solid carrier. Rather, the active pharmaceutical ingredient coats the solid carrier.

This difference also removes Patel et al. as a novelty destroying prior art. As such, Applicants kindly request that the Examiner withdraw this rejection.

35 U.S.C. § 103(a)

The Examiner rejected Claims 21-36 under 35 U.S.C. §103(a) as being unpatentable over Patel et al. (WO 01/37808) in view of Lilley et al. (WO 01/35925).

In order for the prior art to make the claimed invention obvious, three elements must be present in the prior art. First, the prior art must contain some suggestion or incentive that would motivate a skilled artisan to modify the combined references (see, *Karsten Mfg. Corp. v Cleveland Gulf Co.*, 242 F.3d 1376, 1385, 58 U.S.P.Q.2d 1286, 1293 (Fed. Cir. 2001)). Second,

the proposed modification of the prior art must have had a reasonable expectation of success (which is not determined in hindsight) (see *Amgen Inc. v Chugai Pharm. Co.*, 927 F.2d 12000, 1209, 18 U.S.P.Q.2d 1016,1023 (Fed. Cir. 1991)). Third, the prior art references must teach or suggest all of the limitation of the claim (see *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970)).

The Applicants believe that the Examiner's rejection under § 103(a) is invalid because the cited prior art fail to contain some suggestion or incentive to motivate a skilled artisan to modify the combined references; because there is no reasonably expectation of success; and because the prior art references fail to teach or suggestion all of the limitations of the claim. In order to more fully understand the Applicants' position, one must first understand the teachings of Lilley et al. and the differences between Lilley et al. and the present invention.

Lilley et al. teaches encapsulated small particles that contain the active pharmaceutical agent and a carrier. The encapsulated small particles are then mixed with a food matrix. But it is the make-up of the encapsulated small particles that is important for this discussion. Lilley et al. teaches the use of small particles which contain a mixture of a carrier and an active pharmaceutical agent. The active pharmaceutical agent is embedded within the carrier. In Example 1 (page 10) Lilley et al. teaches embedding fenbendazole in calcium alginate. In Example 2 (page 11) Lilley et al. teaches embedding fenbendazole in gelatine and acacia. In Example 3 (pages 11-12) Lilley et al. teaches embedding praziquantel in calcium alginate.

In contrast, the present invention has the active ingredient coats the carrier, rather than embedded in the carrier. This distinction is important.

Patel et al. teaches that the active pharmaceutical agent and surfactants are solubilized within a carrier. Patel et al. fails to teach coating the carrier with only the active pharmaceutical agent, omitting the surfactant. Lilley et al. does not cure this deficiency because Lilley et al. fails to teach that one can coat a carrier with only the active pharmaceutical agent. Lilley et al. teaches embedding the active pharmaceutical agent within the carrier. While Lilley et al. does not teach the non-usage of a surfactant, it also does not suggest that one can omit the surfactant when coating a carrier with the active pharmaceutical agent.

Lilley et al. and Patel et al. lack a suggestion or motivation to combine the two prior art references. They are trying to solve different problems. Patel et al. is trying to improve the

bioavailability of encapsulated pharmaceutical agents. The pharmaceutical agents are encapsulated to protect them against the acidic pH of the stomach. Then the combination of surfactants with the pharmaceutical agent increases the uptake and absorption of the pharmaceutical agents in the small intestine. Lilley et al. is trying to solve the problem of masking the taste of the pharmaceutical agent to provide for better oral ingestion of the pharmaceutical agent by animals. Lilley et al. solves this problem by embedding the pharmaceutical agent within a carrier, not coating the carrier with the pharmaceutical agent. Thus, Lilley et al. teaches away from the presently claimed invention.

Finally, Lilley et al. and Patel et al. lack all of the limitations of the claimed invention. Patel et al. does not consider the omission of surfactants from the layer containing the pharmaceutical agent which coats the carrier. Lilley et al. does not fill in this gap because Lilley et al. embeds the pharmaceutical agent within the carrier, rather than coating the carrier.

Thus, the Applicants believe that the Examiner's rejection under 103(a) as being unpatentable over Patel et al. in view of Lilley et al. is not correct. Applicants kindly request that the Examiner withdraw this rejection.

Applicants believe that all pending claims are patentable and respectfully request the allowance of these claims. The Examiner is welcomed to contact the undersigned at the below indicated telephone number to discuss this patent application.

Respectfully submitted,

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